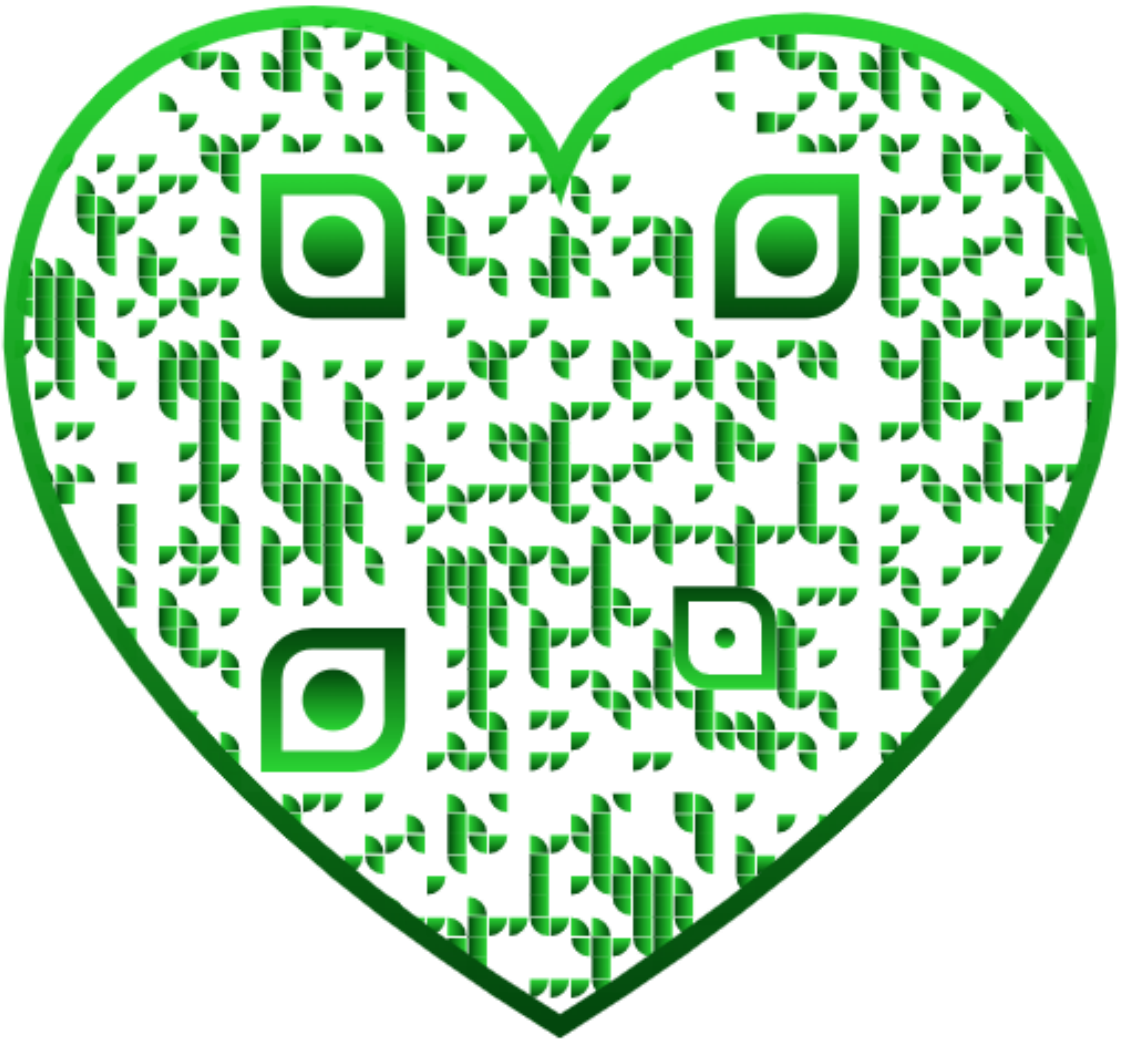
Introduction

1-Define of hypoxia
2-Type of hypoxia
3-Causes of hypoxia according to the type
4-Response of kidney for hypoxia



HYPOXIA

-Definitions: Decrease O2 in blood which lead to decrease O2 in tissue.

Types of hypoxia:

1- hypoxic hypoxia

2-Anemic hypoxia

3-stagnant hypoxia(ischemic hypoxia)

4-Histotoxic hypoxia

A-HYPOXIC HYPOXIA

- 1-Decrrase the O2 in the breathing air(in the high altitude)

2- Decrease pulmonary ventilation , due to :

A) Depression of respiratory center.

B) Paralysis of the respiratory muscles

C) Fatigue of the respiratory muscles.

3-Gas ex change failure(as in pulmonary edema)

4- Right to left cardiac shunts.

ANEMIC ANEMIA

Causes of anemic hypoxia:

1-All types of anemia

2-Trans formation of Hb Into other compound

3-Carbon monoxide poisoning

C-STAGNANT HYPOXIA

Causes of stagnant hypoxia :

- Due to blood stagnant or slow circulation:

1- Generalized polycythemia in tissues

2- localized sever vasoconstriction

D-HISTOTOXIC HYPOXIA

- It is occurs due to blockage of the enzymes involved in tissue respiration.
- Tissue respiration depends on cytochrome and some enzymes especially cytochrome oxidase.
- In arteries; the Po2 and O2 content are normal.

Response of kidney for hypoxia

The kidney : It acts as endocrine which:

Secretes hormone erythropoietin (85%) which stimulate RBC formation in bone marrow.

SUMMARY

Hypoxia is defined as an inadequate supply of oxygen to the body tissues.

Hypoxic Hypoxia :
This is seen when there is a lack of oxygenation of blood in the lungs, which leads to a low PO2 in arterial blood.

Hypoxia types :

1-Hypoxic hypoxia

2-Anemic hypoxia

3-Stagnant hypoxia

4-Histotoxic hypoxia

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Anemic Hypoxia :
This condition is characterized by decreased oxygen carrying capacity of the blood due to decreased hemoglobin level or abnormal type of hemoglobin which is unable to carry oxygen.